Kansas Dry-Cleaner Manual

Complying with Kansas Environmental Regulations

KANSAS

SBEAP

Small Business Environmental Assistance Program

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Contents

Introduction

A dry-cleaning facility is any commercial establishment that operates for the purpose of cleaning garments or other fabrics utilizing a process that involves any use of dry-cleaning solvents. Kansas dry cleaners are potentially regulated under three different environmental compliance programs — air quality (NESHAP), the *Kansas Drycleaner Environmental Response Act* (DERA), and hazardous waste. This manual is created to help you understand and comply with the requirements applicable to your dry-cleaning operations.

Kansas SBEAP assistance to dry cleaners

The Kansas Small Business Environmental Assistance Program (SBEAP) is operated by the Pollution Prevention Institute at Kansas State University. The Kansas SBEAP helps small businesses comply with multimedia environmental regulations including air, hazardous waste, and water. Its staff can introduce businesses to pollution and spill prevention practices such as substitution of materials, process optimization, and use of proper secondary containment. SBEAP also offers compliance assistance to help businesses with permitting and reporting requirements. SBEAP is not a regulatory program; all assistance is confidential and at no cost to small businesses.

SBEAP provides many free technical assistance services, including —

- compliance workshops and seminars
- technical manuals
- fact sheets
- compliance calendars
- pamphlets and fact sheets for specific businesses
- on-site technical assistance
- a toll-free hotline, 800-578-8898
- an Internet site for electronic access to information at ***www.sbeap.org***

Telephone assistance
For general information, technical information, questions about regulations, or assistance with completing dry-cleaning compliance calendars, contact the K-State SBEAP Technical Assistance Hotline, 800-578-8898.

If you have a question or concern, or are unsure of whom to call, contact the Public Advocate, Kansas Department of Health and Environment, 800-357-6087 (in Topeka, 785-296-0669).

As a registered Kansas dry cleaner, check your mailbox each December for your new compliance calendar. This calendar is your comprehensive, environmental, record-keeping tool. NESHAP and DERA records must be kept at your facility for five years, and hazardous waste records for three years. You need one calendar for each dry-cleaning machine.

This manual was originally published in 1997 and updated in 2000, 2004, 2009, and 2011.
Latest revision: Oct. 2012

How to use this manual

What sections should you read?

Perchloroethylene (perc) dry cleaners

You only need to focus on the perc dry-cleaning portion of this manual on pages 4-22. Read page 4 for more information about the different types of environmental regulations which may affect you. You will need to read the *Bureau of Environmental Remediation* section (pages 5-8) because these regulations apply to every dry cleaner using perc. To determine which part of the *Air quality regulations* section applies to you, read page 9 and use the flow chart. All dry cleaners should then read the final section on *Hazardous waste regulations* (pages 19-20). If you generate between 55 and 2,200 lbs of hazardous waste each month, you will also need to read the *Kansas generator requirements* on pages 21-22.

For more information about alternative solvents that can help reduce your regulatory burden, read page 33.

Petroleum dry cleaners

You only need to focus on the petroleum dry-cleaning portion of this manual on pages 23-32. Read page 23 for more information about the different types of environmental regulations which may affect you. Every dry cleaner will need to read the *Bureau of Environmental Remediation* section (pages 24-27) and the *Air quality regulations* section (page 28). You will then need to read pages 29-30 about *Hazardous waste regulations*. If you generate between 55 and 2,200 lbs of hazardous waste each month, you will also need to read the *Kansas generator requirements* on pages 31-32.

For more information about alternative solvents that can help reduce your regulatory burden, read page 33.

Alternative solvent dry cleaners

Read page 33 of the manual and identify the type of solvent you use. Solvent type will determine if you have any environmental regulatory requirements. Alternative solvents are often regulated similarly to petroleum dry cleaners, so you may need to read that section (pages 23-32). If you have any questions about alternative solvents, contact SBEAP at 800-578-8898 or ***sbeap@ksu.edu***.

Dry cleaners using multiple solvent types

You will need to read all sections that apply to you. For example, if you have both a perc and a petroleum dry-cleaning machine, you will need to read both those sections to determine the requirements for each machine type.

Perchloroethylene solvent dry cleaners

Perchloroethylene (perc) dry cleaners must meet environmental requirements from three different sections (or bureaus) of the Kansas Department of Health and Environment (KDHE):

- Bureau of Environmental Remediation
- Bureau of Air
- Bureau of Waste Management

Bureau of Environmental Remediation (BER)
The *Kansas Drycleaner Environmental Response Act* (DERA) is administered by this KDHE section to provide a regulatory preventive program with assessment and remediation activities at dry-cleaning facilities where releases have occurred. Dry cleaners must be registered with this bureau. This bureau collects a $100 registration fee from dry cleaners each year by January 31. *Read pages 5-8 for more information about BER's requirements.*

Bureau of Air (BOA)
The Bureau of Air's goal is to keep Kansas air clean. This KDHE section processes air emission-related permits to ensure emission sources minimize the release of air contaminants and meet KDHE (state) and EPA (federal) regulatory requirements. They do this by setting standards that help you keep your machine in good working order. These requirements can also help save you money. *Read pages 9-18 for more information about BOA's requirements. The flow chart on page 9 will guide you to your air quality category.*

Bureau of Waste Management (BWM)
This bureau regulates storage and disposal of solid and hazardous waste in accordance with KDHE (state) and EPA (federal) regulations. The Bureau of Waste Management has rules to make sure you are properly storing, handling, and getting rid of your waste. As part of its hazardous waste monitoring fee, BWM annually collects $150 from each dry cleaner who generates between 55 and 2,200 lbs of hazardous waste per month. Note this is a separate fee from what is collected annually when registering your facility with BER. Because perc is hazardous, all waste that touches perc is also hazardous. BWM requirements help you manage your waste properly, so it doesn't end up where it shouldn't. *Read pages 19-20 for more information about BWM's requirements. Depending on how much hazardous waste you generate, you may also need to read pages 21-22.*

Perchloroethylene solvent dry cleaners

Bureau of Environmental Remediation (BER) regulations

The Bureau of Environmental Remediation at KDHE administers regulations that implement the *Kansas Drycleaner Environmental Response Act* (DERA) and supplement existing state hazardous waste regulations. Regulations include the following:

- registration of dry-cleaning facilities
- performance standards for dry cleaners
- removal of dry-cleaning wastes from closed facilities
- use of surcharge funds and registration fee for cleanup of contaminated sites

An overview of DERA follows. For more detailed information, contact the KDHE Bureau of Environmental Remediation at 785-296-6370 or go to their website at ***www.kdheks.gov/dryclean/index.html***.

Registration of dry-cleaning facilities

You must register annually (by January 31) each of your dry-cleaning facilities with KDHE's Bureau of Environmental Remediation. New facilities or facilities that install a new machine must submit a registration form within 30 days of beginning operation. New owners must submit a registration form within 30 days of assuming ownership. A registration fee of $100 must be submitted with the registration form. All perc and non-perc dry cleaners must register with KDHE Bureau of Environmental Remediation; only facilities that use 100% wet-cleaning technologies are exempt from this registration.

Note, this is an annual registration; it is different from the initial notification and reports that are due to KDHE under the air quality performance standards as noted on pages 9-18 of this manual. It is also different from the annual fee required by the Bureau of Waste Management for those dry cleaners that generate equal to or greater than 55 pounds of hazardous waste per month.

Kansas dry cleaners must post their KDHE registration number in a conspicuous location in the public area of each operating dry-cleaning facility.

How to register

You can register online by visiting ***www.accesskansas.org/dryclean/index.html***. You can also download, print, and mail the form found at ***www.kdheks.gov/dryclean/download/KDHE_Drycleaner_Registration_Form.pdf***. If you do not have a computer or access to the Internet, contact KDHE's Bureau of Environmental Remediation at 785-296-6370 to request a copy of the registration form.

Send the completed form to —
Kansas Dry-Cleaning Program
KDHE—BER
1000 SW Jackson, Suite 410
Topeka, KS 66612-1367

Perchloroethylene solvent dry cleaners

Bureau of Environmental Remediation (BER) regulations

Performance standards

All Kansas dry cleaners must comply with the following performance standards:

Delivery requirements
All chlorinated solvent (perc) deliveries must be made using a closed, direct-coupled delivery system.

Storage and containment of hazardous materials and waste
Conditionally-exempt small quantity generators (CESQG) of hazardous waste (generate less than 55 lbs/month) should dispose of perc waste in an acceptable on-site facility or send the waste to an approved hazardous waste treatment, storage, or disposal facility. Perc dry cleaner CESQGs may not dispose of the perc waste at a landfill or in the sanitary sewer.

Dry cleaners that generate more than 55 lbs/month must comply with additional hazardous waste regulations that are outlined on pages 21-22.

Each container in which hazardous waste is collected or stored must be labeled with the words “Hazardous Waste.”

You must mark, with the date on which hazardous waste accumulation began, any containers used to store hazardous waste for more than 72 hours. The date marking should be visible for inspection at all times.

You may evaporate dry-cleaning wastewater at your facility in a heated unit or a non-thermal unit using air atomization or misting. The unit should be made of materials compatible with and impervious to perc. The dry-cleaning wastewater should contain no free-phase solvent (no droplets suspended in the water or separate layer at the bottom). If the wastewater contains free-phase solvent, it cannot be evaporated on site and should be handled as a hazardous waste until the defects are repaired. Separator water, whether hazardous or not, can be handled as hazardous waste, and be hauled off by a licensed hazardous waste transporter.

Dry-cleaning wastewater may not be stored for more than 60 days.

You may not discharge any dry-cleaning solvents into sanitary sewers, storm sewers, septic tanks, underground storage tanks, water bodies, or soil.

Keep hazardous waste containers in good condition. Keep containers closed except when adding or removing waste.

Do not store incompatible wastes in the same container. If you are not sure of compatibility, do not mix wastes.

You must construct a dike or other secondary containment structure around each dry-cleaning unit and each dry-cleaning solvent or waste storage area.

Perc dry-cleaning facilities need secondary containment for their units, solvent storage area, and waste storage areas. These secondary containment structures for perc users must be made of epoxy, steel, or polyethylene. KDHE approval is required before using any other material.

All secondary containment structures, as well as the sealant or caulk used, must be impervious to and compatible with perc. The secondary containment structures must be large enough to contain any spill, leak, or

release of dry-cleaning solvent, wastes, or both. Secondary containment for the dry-cleaning unit must be capable of containing any leak, spill, or release of dry-cleaning solvents, dry-cleaning wastes, or both. Floor drains are not allowed in secondary containment structures.

Inspect hazardous waste containers and secondary containment for deterioration weekly. Any deficiency must be repaired within five calendar days. Keep records of inspections and repairs for at least five years.

Removal of dry-cleaning wastes from closed facilities

If you cease operation of your dry-cleaning facility for at least 45 continuous days, you must remove all dry-cleaning solvents and wastes from your facility within 45 days after the last day of operation. Dry-cleaning wastes must be disposed of according to state and federal hazardous waste regulations. Then send a notification of closure letter to KDHE.

A facility closure form is available at ***www.kdheks.gov/dryclean/download/DCclosureform.pdf*** or a letter may be sent to

Kansas Dry-Cleaning Program
KDHE-BER
1000 SW Jackson, Suite 410
Topeka, KS 66612-1367

This form may also be faxed to 785-296-4823.

KDHE Dry-Cleaning Facility Release Trust Fund program

Kansas environmental surcharge and solvent fee

An environmental surcharge and dry-cleaning solvent fee are collected by the Kansas Department of Revenue. They are used to fund cleanup of contaminated sites associated with dry cleaning.

The surcharge is 2.5 percent of gross receipts (not including sales tax) received from dry-cleaning or laundering services. Dry cleaners currently registered for the retailer's tax have been automatically registered for the environmental surcharge.

Solvent fee rates are now $5.50 per gallon for perc (chlorinated) solvents and $0.55 per gallon for petroleum (non-chlorinated) solvents. Dry cleaners must now submit their KDHE registration number to the solvent distributor before they can obtain solvent. The distributor will collect the solvent fee from the dry cleaner, and the distributor will pay the director of taxation. This means the dry cleaner will no longer pay the solvent fee directly to the state.

Use of surcharge funds for cleanup of contaminated sites

If your facility has a proven release of dry-cleaning solvent that contaminated soil and/or groundwater, you may apply to KDHE's Dry-cleaning Facility Release Trust Fund program to have the contaminated site ranked for cleanup using the dry-cleaning environmental surcharge fund. More information is available at ***www.kdheks.gov/dryclean/index.html***. You will need to provide an analysis of at least one groundwater sample to prove that the release has occurred. Soil samples may be substituted for groundwater samples with pre-approval from KDHE. Priority will be given to sites that require emergency action.

Perchloroethylene solvent dry cleaners

Bureau of Environmental Remediation (BER) regulations

If you have spent more than $5,000 in corrective actions, you may request reimbursement from KDHE. Obtain approval from KDHE before proceeding with any corrective action. If you request reimbursement for corrective actions, you must provide the following records:

- notice of KDHE eligibility for site cleanup
- work plans for actions for which you are asking to be reimbursed
- all reports generated during the corrective action
- notice of KDHE approval for the corrective action
- contractor and subcontractor invoices

Fund expenditures

KDHE will determine a priority ranking for accepted trust fund sites based on a risk to human health and the environment. Typically annual expenditures per site will not exceed 10% of the fund's annual income. KDHE makes every effort to keep dry-cleaning sites off the federal National Priorities List (NPL) and discourages other units of government, both local and federal, from becoming involved in contamination issues at contaminated dry-cleaning sites. Careful consideration is given to effectively and efficiently utilize the fund; therefore, innovative technologies are encouraged to perform corrective action.

Examples of Dry-cleaning Facility Release Trust Fund expenditures include the following:

- investigation and assessment of a release from a dry-cleaning facility
- necessary and appropriate emergency action to treat, restore, or replace drinking water supplies impacted by a dry-cleaning facility release
- remediation of releases for a dry-cleaning facility
- operation and maintenance of corrective action
- monitoring of releases from dry-cleaning facilities
- payment of reasonable costs incurred by KDHE in providing field and laboratory services
- reasonable costs of restoring property, as nearly as practical, to the conditions that existed prior to corrective action activities
- removal and proper disposal of waste generated by release of a solvent
- payment of costs of past corrective action conducted by KDHE or other entities, but approved by KDHE. (This reimbursement is limited to $100,000 per site.)

Site funding limits

The Dry Cleaning Facility Release Trust Fund shall not be liable for payment of costs in excess of $5,000,000 for corrective action at any contaminated dry-cleaning site.

If you need more information about ranking a contaminated site, use of the surcharge fund, or reimbursement for corrective actions, contact KDHE at 785-296-6370.

Perchloroethylene solvent dry cleaners

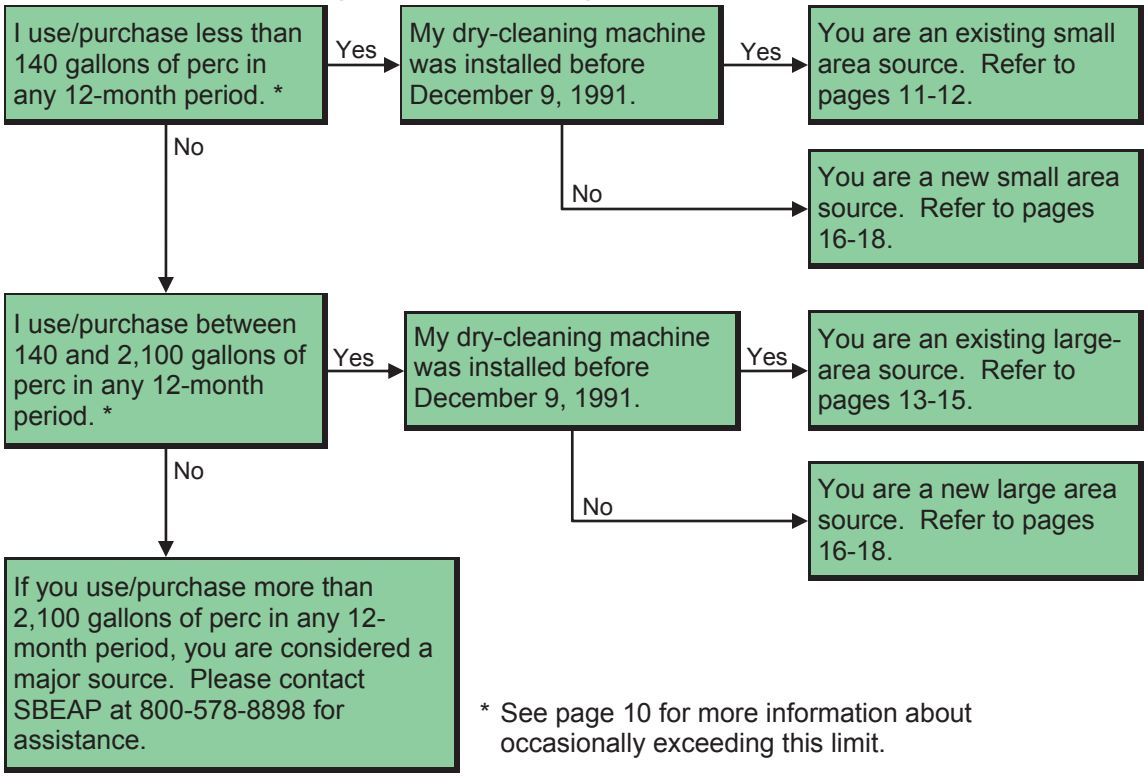
Air quality regulations

The most commonly used dry-cleaning solvent is perchloroethylene (perc). Under the Clean Air Act, EPA has established a maximum achievable control technology (MACT) standard that regulates perc dry cleaners. This standard was finalized by the EPA in September 1993. The regulations are included in Chapter 40 of the Code of Federal Regulations, Part 63, Subpart M (40 CFR 63 Subpart M).

Compliance requirements differ, depending on how much perc you purchase in a 12-month period and when your perc dry-cleaning unit was installed. The chart below will help you determine your air quality-related obligations. For guidance on determining 12 months worth of perc purchases, which is known as the rolling or running total, see page 36. If you need more assistance in determining your compliance requirements, contact the Kansas SBEAP.

Note: All transfer machines should be eliminated by now.

How to determine your air quality requirements



* See page 10 for more information about occasionally exceeding this limit.

Perchloroethylene solvent dry cleaners

Air quality regulations

Occasional exceedances

If you exceed your allowable perc consumption as calculated in your 12-month running total, and it has been at least three years since your most recent prior exceedance, this will not affect your source status. For example, a small area source that uses more perc than allowed once every three years will not be reclassified as a large area source. Likewise, a large area source will not be reclassified as a major source if perc consumption limits are exceeded only once every three years.

If you are a small area source and your 12-month perc use exceeds allowable limits more frequently than once in three years, you have 180 days to comply with large area source requirements. During that period, you must also submit a control requirements compliance report to KDHE BOA. Likewise, if you are a large area source and your 12-month perc use exceeds allowable limits more frequently than once in three years, you have 180 days to comply with major source requirements.

If you have more frequent exceedances, you can request that KDHE determine whether they were unusual or "episodic" occurrences. Episodic exceedances (those not expected to recur) should not affect the regulatory status of your facility.

For detailed guidance on how to calculate your 12-month running total, see page 36 of this manual or consult the dry-cleaner compliance calendar.

Installing new equipment

If you install new machines or add on control devices, you must now be in full compliance at the time of startup. Whenever you get new equipment, you also must notify KDHE that you are in compliance by submitting an initial notification, pollution prevention compliance report, and control report. Forms for supplying this information are available at ***www.epa.gov/dfe/pubs/garment/perc/append2.pdf***. Within 30 days of equipment installation, send this notification and reports to KDHE and EPA:

KDHE - BOA
1000 SW Jackson Street, Suite 310
Topeka, KS 66612-1366

Air Permitting and Compliance Branch
US EPA, Region 7
11201 Renner Blvd
Lenexa, KS 66219

Perchloroethylene solvent dry cleaners

Air quality regulations

Existing small area sources

Existing small area sources are dry cleaners who use or purchase 140 gallons or less of perc in a 12-month period and who installed their dry-cleaning machine before December 9, 1991. You must keep documentation on site that proves your installation date and your perc purchasing amount. Keep copies of design specifications and operating manuals for each dry-cleaning machine. If you do not have an operating manual, contact the manufacturer for a copy.

Tip: Use the envelope in the dry-cleaner compliance calendar for storing receipts.

General requirements

- Keep door closed at all times except when adding or removing clothes.
- Run the machine based on manufacturer specifications and recommendations.
- Before removing any filters from the facility, drain them in their housing or in a sealed container for a 24-hour period.
- Store all perc and perc wastes in sealed containers that do not leak.
- Leak inspections — Check for leaks in and around the machine **biweekly** (twice each month). At least one leak inspection each month must be done using the enhanced leak detection and repair (LDAR) inspection method. This means using an instrument known as a halogenated hydrocarbon detector or perc gas analyzer. For tips on how to conduct this type of inspection, see page 37 of this manual or consult the dry-cleaner compliance calendar. Other leak inspections can be done using the perceptible method, which involves checking for any leaks that are obvious by sight, smell, or touch (for instance, drops of perc are visible on the outside of a machine or air can be felt coming from a machine).
  - Leak checks must be done when the machine is running.
  - Dry-cleaning equipment that must be inspected includes hoses, pipes, fittings, couplings, valves, gaskets, seals, pumps, solvent tanks and containers, water separators, muck cookers, stills, diverter valves, and cartridge-filter housings.
  - Make sure to document results of each inspection.
- The operator must repair any leaks found within 24 hours. If new parts are needed, they should be ordered within two days of finding the leak and new parts should be installed within five days of receiving the part.
- If you install any new equipment or add-on devices, you must notify KDHE and EPA. More information is located on page 10.

Perchloroethylene solvent dry cleaners

Air quality regulations

Existing small area sources (continued)

Recordkeeping requirements

- Perc usage/purchase logs are up to date and receipts for perc purchases are available (must be kept on site for a minimum of five years).

Tip: A great way to keep track of record-keeping requirements is to use the dry-cleaner compliance calendar.

- The sum of all the perc purchases made in the previous 12 months is calculated. This is known as the running total. Look at page 36 for an example.

- A log showing dates of leak inspections is up to date and kept on site.
  - If any leaks were found, name or location of components involved are listed.
  - Dates of repair and records of written or verbal orders for repair parts are available.
  - Keep all perc purchases and record-keeping logs on site for a minimum of five years.

- A weekly inspection log of air pollution control devices must be kept on site (see below).

Requirements for air pollutant control devices
(Air pollutant control devices are not required for existing small area sources. The following are recommended best management practices.)

- Keep documentation about each installed control device.

- A weekly leak test on each air pollutant control device should be performed and recorded.

- If the refrigerated condenser on your dry-cleaning unit is equipped with a pressure gauge, then you must document weekly the high- and low-pressure readings (taken during the drying phase). If you are recording the pressure readings, you are not required to record the temperature of the exhaust on the outlet of the condenser, although it is recommended as a best management practice.

- If you are recording the temperature, take readings of the exhaust on the outlet of the refrigerated condenser. The temperature must be 45°F or less. If the temperature is greater than 45°F, you must make repairs or adjustments and promptly write down the corrective actions taken.

- You are allowed to use a carbon adsorber as a substitute for a refrigerated condenser if it was installed before September 22, 1993. The carbon adsorber must be used at all times the machine is running and the exhaust of the carbon adsorber (sniffer) must be measured once each week using a colorimetric detector tube or perc gas analyzer. The measurement should be taken at the end of the last dry-cleaning cycle while the perc is released to the adsorber prior to steaming out (cleaning) the adsorber. The concentration of perc must be 100 parts per million (ppm) or less and the concentration must be recorded weekly.

Perchloroethylene solvent dry cleaners

Air quality regulations

Existing large area sources

Existing large area sources are dry cleaners who use or purchase between 140 and 2,100 gallons of perc in a 12-month period and who installed their dry-cleaning machines before December 9, 1991. You must keep documentation on site that proves your installation date and your perc purchasing amount. Keep copies of design specifications and operating manuals for each dry-cleaning machine. If you do not have an operating manual, contact the manufacturer for a copy.

Tip: Use the envelope in the dry-cleaner compliance calendar for storing receipts.

General requirements

- Keep door closed at all times except when adding or removing clothes.
- Run the machine based on manufacturer specifications and recommendations.
- Before removing any filters from the facility, drain them in their housing or in a sealed container for a 24-hour period.
- Store all perc and perc wastes in sealed containers that do not leak.
- Leak inspections — Check for leaks in and around the machine **weekly**. At least one leak inspection each month must be done using the enhanced leak detection and repair (LDAR) inspection method. This means using an instrument known as a halogenated hydrocarbon detector or perc gas analyzer. For tips on how to conduct this type of inspection, see page 37 of this manual or consult the dry-cleaner compliance manual. The other leak inspection can be done using the perceptible method, which involves checking for any leaks that are obvious by sight, smell, or touch (for instance, drops of perc are visible on the outside of a machine or air can be felt coming from a machine).
  - Leak checks must be done when the machine is running.
  - Dry-cleaning equipment that must be inspected includes hoses, pipes, fittings, couplings, valves, gaskets, seals, pumps, solvent tanks and containers, water separators, muck cookers, stills, diverter valves, and cartridge-filter housings.
  - Make sure to document the results of each inspection.
- The operator must repair any leaks found within 24 hours. If new parts are needed, they should be ordered within two days of finding the leak and new parts should be installed within five days of receiving the part.
- If you install any new equipment or add-on devices, you must notify KDHE and EPA. More information is located on page 10.

Perchloroethylene solvent dry cleaners

Air quality regulations

Existing large area sources (continued)

Record-keeping requirements

- Perc usage/purchase logs are up to date and receipts for perc purchases are available (must be kept on site for a minimum of five years).

Tip: A great way to keep track of record-keeping requirements is to use the dry-cleaner compliance calendar.

- The sum of all perc purchases made in the previous 12 months is calculated. This is known as the running total. Look at page 36 for an example.

- A log showing dates of leak inspections is up to date and kept on site.
  - If any leaks were found, name or location of components involved are listed.
  - Dates of repair and records of written or verbal orders for repair parts are available.
  - Keep all perc purchases and record-keeping logs on site for a minimum of five years.

- A weekly inspection log of air pollution control devices must be kept on site (see below).

Requirements for air pollutant control devices

- Keep documentation about each installed control device.

- A weekly leak test on each air pollutant control device should be performed and recorded.

- All existing large area sources must use a refrigerated condenser or equivalent control device to remove perc from the air stream contained within each dry-cleaning machine. You are allowed to use a carbon adsorber as a substitute for a refrigerated condenser if it was installed before September 22, 1993.

- If the refrigerated condenser on your dry-cleaning unit is equipped with a pressure gauge, then you must document weekly the high- and low-pressure readings (taken during the drying phase). If you are recording the pressure readings, you are not required to record the temperature of the exhaust on the outlet of the condenser, although it is recommended as a best management practice.

- If you are recording the temperature, take readings of the exhaust on the outlet of the refrigerated condenser. The temperature must be 45°F or less. If the temperature is greater than 45°F, you must make repairs or adjustments and promptly write down the corrective actions taken.

Perchloroethylene solvent dry cleaners

Air quality regulations

Existing large area sources (continued)

Requirements for air pollutant control devices (continued)

- The refrigerated condenser must not allow perc to escape while the machine is running.
- A valve must be installed on the refrigerated condenser to prevent outside air from coming into the condenser when the door is open.
- If you are using a carbon adsorber, it must be used at all times the machine is running and the exhaust of the carbon adsorber (sniffer) must be measured once each week using a colorimetric detector tube or perc gas analyzer. The measurement should be taken at the end of the last dry-cleaning cycle while the perc is released to the adsorber prior to steaming out (cleaning) the adsorber. The concentration of perc must be 100 parts per million (ppm) or less and the concentration must be recorded weekly.

I don't remember whose name we used, but they were just a pair of men's khaki pants.

Perchloroethylene solvent dry cleaners

Air quality regulations

New small and large area sources

Tip: Use the envelope in the dry-cleaner compliance calendar for storing receipts.

New small area sources are dry cleaners who installed their dry-cleaning machines on or after December 9, 1991, and purchase 140 or less gallons of perc in any 12-month period. New large area sources also installed their units on or after December 9, 1991, but purchase between 140 and 2,100 gallons of perc in any 12-month period. You must keep documentation on site that proves your installation date and your perc purchasing amount. Keep copies of design specifications and operating manuals for each dry-cleaning machine. If you do not have an operating manual, contact the manufacturer for a copy.

General requirements

- Keep door closed at all times except when adding or removing clothes.
- Run the machine based on manufacturer specifications and recommendations.
- Before removing any filters from the facility, drain them in their housing or in a sealed container for a 24-hour period.
- Store all perc and perc wastes in sealed containers that do not leak.
- Leak inspections — Check for leaks in and around the machine **weekly**. At least one leak inspection each month must be done using the enhanced leak detection and repair (LDAR) inspection method. This means using an instrument known as a halogenated hydrocarbon detector or perc gas analyzer. For tips on how to conduct this type of inspection, see page 37 of this manual or consult the dry-cleaner compliance manual. The other leak inspection can be done using the perceptible method, which involves checking for any leaks that are obvious by sight, smell, or touch (for instance, drops of perc are visible on the outside of a machine or air can be felt coming from a machine).
  - Leak checks must be done when the machine is running.
  - Dry-cleaning equipment that must be inspected includes hoses, pipes, fittings, couplings, valves, gaskets, seals, pumps, solvent tanks and containers, water separators, muck cookers, stills, diverter valves, and cartridge-filter housings.
  - Make sure to document the results of each inspection.
- The operator must repair any leaks found within 24 hours. If new parts are needed, they should be ordered within two days of finding the leak and new parts should be installed within five days of receiving the part.
- If you install any new equipment or add-on devices, you must notify KDHE and EPA. More information is located on page 10.

Perchloroethylene solvent dry cleaners

Air quality regulations

New small and large area sources (continued)

Record-keeping requirements

- Perc usage/purchase logs are up to date and receipts for perc purchases are available (must be kept on site for a minimum of five years).

Tip: A great way to keep track of record-keeping requirements is to use the dry cleaner compliance calendar.

- The sum of all perc purchases made in the previous 12 months is calculated. This is known as the running total. Look at page 36 for an example.

- A log showing dates of leak inspections is up to date and kept on site.
  - If any leaks were found, name or location of the components involved are listed.
  - Dates of repair and records of written or verbal orders for repair parts are available.
  - Keep all perc purchases and record-keeping logs on site for a minimum of five years.

- A weekly inspection log of air pollution control devices must be kept on site (see below).

Requirements for air pollutant control devices

- Keep documentation about each installed control device.

- A weekly leak test on each air pollutant control device should be performed and recorded.

- New small and large area sources must use a refrigerated condenser or equivalent control device. If the machine was installed after December 21, 2005, it must be non-venting (a closed-loop system) and be equipped with a refrigerated condenser and secondary carbon adsorber. The carbon adsorber must be desorbed in accordance with manufacturer's instructions.

- The refrigerated condenser cannot release perc during machine operation and a valve must be installed to prevent outside air from coming into the condenser when the door is open.

- If the refrigerated condenser on your dry-cleaning unit is equipped with a pressure gauge, then you must document weekly the high- and low-pressure readings (taken during the drying phase). If you are recording the pressure readings, you are not required to record the temperature of the exhaust on the outlet of the condenser, although it is recommended as a best management practice.

Perchloroethylene solvent dry cleaners

Air quality regulations

New small and large area sources (continued)

Requirements for air pollutant control devices (continued)

- If you are recording the temperature, take readings of the exhaust on the outlet of the refrigerated condenser. The temperature must be 45°F or less. If the temperature is greater than 45°F, you must make repairs or adjustments and promptly write down the corrective actions taken.

- The carbon adsorber must be used at all times the machine is running and the exhaust of the carbon adsorber (sniffer) must be measured once each week. A colorimetric detector tube or perc gas analyzer should be used to measure the perc content. The measurement should be taken at the end of the last dry-cleaning cycle while the perc is released to the adsorber prior to steaming out (cleaning) the adsorber. The concentration of perc must be 100 parts per million (ppm) or less and the concentration must be recorded weekly.

There goes the only man in town with starched boxer shorts!

Perchloroethylene solvent dry cleaners

Hazardous waste regulations

Most dry cleaners are generators of hazardous waste. Because it is your responsibility to determine which of your wastes are hazardous and how to properly handle and dispose of them, you should become familiar with the regulations that apply to generators of hazardous waste. For more information, you may want to read the *Hazardous Waste Generator Handbook* published by KDHE. You can download the handbook at ***www.kdheks.gov/waste/forms/hazwaste/gen700-HWGenHandbook2011.pdf***. You may also call SBEAP (800-578-8898) or KDHE (785-296-1600) to request a copy.

What is a hazardous waste?

Definitions of hazardous waste
EPA has defined a waste as hazardous if it has certain properties that could pose danger to human health or the environment after being discarded. There are two categories of hazardous waste: *listed* and *characteristic*.

Perc, when used as a solvent, is a listed hazardous waste, EPA waste code F002. In addition to wastes specifically listed as hazardous, a waste is considered hazardous if it exhibits one or more of the following characteristics: ignitability, toxicity, corrosivity, or reactivity. Perc filters often carry the toxicity waste code of D039 (tetrachloroethylene). When it comes to perc-related waste, basically, anything that comes in contact with the solvent should be considered a hazardous waste. A waste is ignitable if it has a flash point* of lower than 140º F (consult the material safety data sheet), readily causes fires and burns so vigorously that it creates a hazard, or is an ignitable compressed gas or an oxidizer as defined by Department of Transportation (DOT) regulations. It would have the waste code, D001. Certain solvents used in routine maintenance and cleaning of equipment may be ignitable.

* The lowest temperature at which vapors above a volatile combustible substance ignite in air when exposed to flame.

Hazardous wastes generated by most dry cleaners include, but are not limited to —

- still bottoms
- filter cartridges
- separator water
- partially empty solvent containers or drums that may contain residual solvents
- lint and spent carbon
- dry-cleaning wastewater

Shipping Waste Off-Site
The three most important things to remember when shipping hazardous waste off site are to —

- choose a reputable hauler and facility with EPA ID numbers
- package and label all waste appropriately
- prepare a hazardous waste manifest (Make sure your copies are readable.)

You must ensure that your transporter and waste facility meet applicable state and federal regulations. Disposal facilities must have permits issued by EPA or the state in which the facility is located. Under federal law, you may use only authorized hazardous waste transporters and disposal facilities that have been assigned EPA identification numbers.

The hauler you choose will transport your waste, and the waste management facility will be its final destination. But remember, you are still responsible for the waste you produce.

Perchloroethylene solvent dry cleaners

Hazardous waste regulations

Hazardous waste generator categories

Kansas regulations define four categories of hazardous waste generators: conditionally-exempt small quantity generator (CESQG), Kansas small quantity generator (KSQG), and small or large quantity generator (SQG or LQG). As a CESQG, you may not be subject to hazardous waste notification or reporting requirements. However, dry-cleaner hazardous wastes in any quantity must be managed using specific hazardous waste management standards. Remember, even if you aren't subject to the hazardous waste reporting requirements, you must still register with the KDHE Bureau of Remediation as explained on page 5.

You must determine your generator category to determine which waste regulations apply to you. Your facility may change its status from one category to another, depending on how much waste it generates in a given period. To determine your hazardous waste generator category, count all quantities of hazardous waste that you store on site, package and transport off site, place directly in a regulated on-site treatment or disposal unit, and generate as distillation still bottoms or sludge removed from product tanks.

Do not count wastes that are:

- specifically exempt (for example, used oil that is recycled)
- left in the bottom of containers that have been completely emptied by conventional means such as pouring or pumping
- reclaimed continuously on site without storing (However, count residue removed from recycling apparatus and spent cartridge filters.)
- managed in an elementary neutralization unit, an enclosed treatment unit, or a wastewater treatment unit, or
- discharged directly to a publicly owned treatment works (POTW) without being stored

REMEMBER — Discharging perc wastewater to a POTW is strictly prohibited in Kansas.

Regardless of your generator category, you may not dispose of any quantity of hazardous waste by dumping it on the surface of the ground or into surface waters, burying it at an unpermitted site, or using waste such as a solvent to kill weeds.

Hazardous waste monthly generation rate	Hazardous waste generator category
< 55 lbs	CESQG
≥ 55 lbs and ≤ 220 lbs	Kansas SQG (or KSQG)
> 220 lbs and < 2,200 lbs	SQG
≥ 2,200 lbs	LQG

Perchloroethylene solvent dry cleaners

Hazardous waste regulations

Requirements for hazardous waste generators

Most perc dry cleaners fall into either the CESQG or KSQG generator category. If a KSQG, SQG, or LQG, you are subject to several regulations, including obtaining an EPA identification number, preparing a manifest for all off-site shipments of hazardous waste, and meeting emergency preparedness requirements. Following are more detailed KSQG requirements. If you think you may be classified as an SQG or LQG, contact SBEAP at 800-578-8898 or KDHE at 785-296-1600 for details of your requirements. Requirements for each generator category are summarized in the *Hazardous Waste Generator Handbook* available at ***www.kdheks.gov/waste/forms/hazwaste/gen700-HWGenHandbook2011.pdf***.

KSQG requirements

1. Determine which wastes generated by the facility are hazardous.

2. All hazardous wastes must be managed by treatment on site, or sent off site to a commercial treatment, storage, or disposal (TSD) facility or to a facility designated for recycling.

3. Obtain an EPA identification number by submitting a Notification of Regulated Waste Activity form to KDHE. The notification must be updated whenever the information submitted on the original form changes. This form can be downloaded at ***www.kdheks.gov/waste/forms/hazwaste/gen500-notifyofregactivity-hwgen.pdf*** or you can call 785-296-1600 for the most recent edition of the notification form.

4. Prepare a manifest or tolling agreement for all shipments of hazardous wastes that are transported off site for treatment, recycling, storage or disposal. Your commercial hazardous waste vendor will be able to provide the manifest or tolling agreement.

5. Prepare a land disposal restriction (LDR) notification and/or certification for the first shipment of each different hazardous waste. Whether a waste or contaminated soil meets or does not meet the treatment standard, the generator must send a one-time written LDR notification to each treatment, storage, or disposal facility receiving the waste.

6. Package, label, mark, and placard all shipments of hazardous waste in accordance with pre-transportation requirements contained in K.A.R.28-31-4(e). Your vendor may offer this service.

7. Prepare and maintain the following records:
   - a copy of each manifest signed by the designated facility to which waste was sent and a copy of any tolling agreements for wastes shipped to a recycling facility (The signed manifests must be maintained for three years from the date waste was shipped off-site.)
   - manifest exception reports for three years
   - copies of LDR records for three years from the date waste was last shipped off site
   - hazardous waste analyses for three years from the date waste was last shipped off site.
   - daily and weekly inspection records for three years, although the Bureau of Environmental Remediation requires you keep records for a minimum of five years

Perchloroethylene solvent dry cleaners

Hazardous waste regulations

KSQG requirements (continued)

8. Meet the following storage requirements for hazardous waste **containers**:
   - mark or label each container with the words "Hazardous Waste" and accumulation start date
   - maintain containers in good condition
   - use a container compatible with the hazardous waste to be stored and segregate containers of incompatible wastes
   - keep containers closed except when adding or removing waste
   - inspect each container storage area weekly when waste is present and maintain a written record of each inspection (BWM suggests that a facility also document when no waste is present in the storage area.)

9. If you have hazardous waste storage tanks, see the *Hazardous Waste Generator Handbook* for tank storage requirements.

10. Meet the following preparedness and prevention requirements:
    - properly maintain the facility to minimize releases of hazardous waste
    - provide appropriate communication, alarm system, or a telephone or two-way radio
    - provide fire extinguishing and spill-control equipment
    - maintain and test all required equipment to ensure proper operation
    - provide personnel working directly with hazardous waste with immediate access to communications and alarm equipment
    - maintain aisle space sufficient to allow passage of personnel and fire, spill-control, and decontamination equipment
    - as appropriate for type of waste handled and potential need for emergency services, make arrangements with local hospital, police department, fire department, and any emergency response team to familiarize them with facility layout and hazards involved with wastes generated (Such arrangements should be documented.)

11. Meet the following emergency preparedness and training requirements:
    - designate emergency coordinator who is on the premises or on call at all times to coordinate emergency response measures
    - post name and phone number of emergency coordinator; phone number of fire department; and location of fire extinguishers, spill-control equipment, and fire alarms next to one telephone that is accessible during an emergency
    - ensure that all employees are thoroughly familiar with proper waste handling and emergency procedures
    - carry out appropriate response to any emergency that arises

12. Before April 1 of each year, submit to KDHE the annual monitoring fee of $150. Note this is separate from the dry-cleaner registration fee.

13. Report all international shipments of hazardous waste to KDHE and EPA.

SQGs and LQGs have additional requirements. For assistance, contact SBEAP.

Petroleum solvent dry cleaners

Petroleum dry cleaners potentially must meet environmental requirements from three different sections (or bureaus) of the Kansas Department of Health and Environment:

- Bureau of Environmental Remediation
- Bureau of Air
- Bureau of Waste Management

Bureau of Environmental Remediation (BER)
The *Kansas Drycleaner Environmental Response Act* (DERA) is administered by this KDHE section to provide a regulatory preventive program with assessment and remediation activities at dry-cleaning facilities where releases have occurred. Dry cleaners must be registered with this bureau. This bureau collects a $100 registration fee from dry cleaners each year by January 31. *Read pages 24-27 for more information about BER's requirements.*

Bureau of Air (BOA)
The Bureau of Air's goal is to keep Kansas air clean. This KDHE section processes air emission-related permits to ensure emission sources minimize the release of air contaminants and meet KDHE (state) and EPA (federal) regulatory requirements. They do this by setting standards that help you keep your machine in good working order. These requirements can also help save you money. *Read page 28 for more information about BOA's requirements.*

Bureau of Waste Management (BWM)
This bureau regulates storage and disposal of solid and hazardous waste in accordance with KDHE (state) and EPA (federal) regulations. The Bureau of Waste Management has rules to make sure you are properly storing, handling, and getting rid of your waste. As part of their hazardous waste monitoring fee, they annually collect $150 from each dry cleaner who generates between 55 and 2,200 lbs of hazardous waste per month. Note this is a separate fee from what is collected annually when registering your facility with BER. BWM requirements help you manage your waste properly so it doesn't end up where it shouldn't. *Read pages 29-32 for more information about BWM's requirements.*

Petroleum solvent dry cleaners

Bureau of Environmental Remediation (BER) regulations

The Bureau of Environmental Remediation at KDHE administers regulations that implement the *Kansas Dry Cleaner Environmental Response Act* (DERA) and supplement existing state hazardous waste regulations. The regulations include the following:

- registration of dry-cleaning facilities
- performance standards for dry cleaners
- removal of dry-cleaning wastes from closed facilities
- use of surcharge funds and registration fee for cleanup of contaminated sites

An overview of DERA follows. For more detailed information, contact the KDHE Bureau of Environmental Remediation at 785-296-6370 or go to their website at ***www.kdheks.gov/dryclean/index.html***.

Registration of dry-cleaning facilities

You must register annually (by January 31) each of your dry-cleaning facilities with KDHE's Bureau of Environmental Remediation. New facilities or facilities that install a new machine must submit a registration form within 30 days of beginning operation. New owners must submit a registration form within 30 days of assuming ownership. A registration fee of $100 must be submitted with the registration form. All perc and non-perc dry cleaners must register with KDHE Bureau of Environmental Remediation; only facilities that use 100% wet-cleaning technologies are exempt from this registration.

Note, this is different from the annual fee required by the Bureau of Waste Management for those dry cleaners that generate greater than 55 pounds of hazardous waste per month.

Kansas dry cleaners must post their KDHE registration number in a conspicuous location in the public area of each operating dry-cleaning facility.

How to register

You can register online by visiting ***www.accesskansas.org/dryclean/index.html***. You can also download, print, and mail the form found at ***www.kdheks.gov/dryclean/download/KDHE_Drycleaner_Registration_Form.pdf***. If you do not have a computer or access to the Internet, contact KDHE's Bureau of Environmental Remediation at 785-296-6370 to request a copy of the registration form.

Send the completed form to —

Kansas Dry-Cleaning Program
KDHE—BER
1000 SW Jackson, Suite 410
Topeka, KS 66612-1367

Petroleum solvent dry cleaners

Bureau of Environmental Remediation (BER) regulations

Performance standards

All Kansas dry cleaners must comply with the following DERA performance standards:

Delivery requirements
All petroleum-based solvents must be delivered in accordance with K.A.R. 22-7-9 which states, any individual conducting the transfer of flammable or combustible liquids from a transport vehicle to a storage tank governed by the Kansas Fire Prevention Code shall verify the available capacity of the tank prior to starting transfer operations.

Storage and containment of hazardous materials and waste
As a petroleum dry cleaner, you probably don't generate regulated hazardous waste unless the flash point of your solvent is less than 140°F. If you do generate regulated hazardous waste, then conditionally-exempt small quantity generators (CESQGs) of hazardous waste (generate less than 55 lbs/month) that accumulate up to 55 lbs of hazardous waste, should dispose of petroleum waste in an acceptable on-site facility or send the waste to an approved hazardous waste treatment, storage, or disposal facility.

Dry cleaners that generate more than 55 lbs/month must comply with additional hazardous waste regulations outlined on page 31-32.

Each container in which hazardous waste is collected or stored must be labeled with the words "Hazardous Waste." You must mark, with the date on which hazardous waste accumulation began, any containers used to store hazardous waste for more than 72 hours. The date marking should be visible for inspection at all times.

If you generate separator water, then you may evaporate dry-cleaning wastewater at your facility in a heated unit or a nonthermal unit using air atomization or misting. The unit should be made of materials compatible with and impervious to the petroleum solvent. The dry-cleaning wastewater should contain no free-phase solvent (no droplets suspended in the water). If the wastewater contains free-phase solvent, it cannot be evaporated on site and should be handled as a hazardous waste until the defects are repaired. Separator water, whether hazardous or not, can be handled as hazardous waste, and be hauled off by a licensed hazardous waste transporter.

Dry-cleaning wastewater may not be stored for more than 60 days.

You may not discharge any dry-cleaning solvents into sanitary sewers, storm sewers, septic tanks, underground storage tanks, water bodies, or soil.

Keep hazardous waste containers in good condition. Keep containers closed except when adding or removing waste.
Do not store incompatible wastes in the same container. If you are not sure of compatibility, do not mix wastes.

You must construct a dike or other secondary containment structure around each dry-cleaning unit and each dry-cleaning solvent or waste storage area.

Dry-cleaning facilities using petroleum solvent or other non-chlorinated solvents need secondary containment for their units, the solvent storage area, and the waste storage areas. These secondary containment structures for petroleum and other non-chlorinated solvent users may be constructed of epoxy, steel, or concrete. All secondary containment structures, as well as the sealant

Petroleum solvent dry cleaners

Bureau of Environmental Remediation (BER) regulations

or caulk used, must be impervious to and compatible with the dry-cleaning solvent in use or stored on site. Secondary containment for the dry-cleaning unit must be capable of containing any leak, spill, or release of dry-cleaning solvents, dry-cleaning wastes, or both. Floor drains are not allowed in secondary containment structures.

Inspect hazardous waste containers and secondary containment for deterioration weekly. Any deficiency must be repaired within five calendar days. Keep records of inspections and repairs for at least five years.

Removal of dry-cleaning wastes from closed facilities
If you cease operation of your dry-cleaning facility for at least 45 continuous days, you must remove all dry-cleaning solvents and wastes from your facility within 45 days after the last day of operation. Dry-cleaning wastes must be disposed of according to state and federal hazardous waste regulations. Then send a notification of closure letter to KDHE.

Special waste requirements
A special waste is a solid waste that because of certain characteristics, requires special management standards due to concerns for owner or operator safety regarding handling, management, or disposal. An example of a special waste would be waste generated by GreenEarth dry cleaners.

The generator of the special waste must obtain a special waste disposal authorization from the Bureau of Waste Management (BWM) prior to transfer and disposal. Call the BWM Special Waste Unit at (785) 296-0681 for more information.

As part of the BER performance standards, secondary containment for special waste is required.

A facility closure form is available at ***www.kdheks.gov/dryclean/download/DCclosureform.pdf*** or a letter may be faxed to 785-296-4823 or sent to

Kansas Dry-Cleaning Program
KDHE-BER
1000 SW Jackson, Suite 410
Topeka, KS 66612-1367

KDHE Dry Cleaning Facility Release Trust Fund Program

Kansas environmental surcharge and solvent fee
An environmental surcharge and dry-cleaning solvent fee are collected by the Kansas Department of Revenue. The surcharge and solvent fee are used to fund cleanup of contaminated sites associated with dry-cleaning.

The surcharge is 2.5 percent of gross receipts (not including sales tax) received from dry-cleaning or laundering services. Dry cleaners currently registered for the retailer's tax have been automatically registered for the environmental surcharge.

Solvent fee rates have now stabilized at $5.50 per gallon for perc and $0.55 per gallon for petroleum solvents. Dry cleaners must now submit their KDHE registration number to the solvent distributor before they can obtain solvent. The distributor will collect the solvent fee from the dry cleaner, and the distributor will pay the director of taxation. This means the dry cleaner will no longer pay the solvent fee directly to the state.

Petroleum solvent dry cleaners

Bureau of Environmental Remediation (BER) regulations

Use of surcharge funds for cleanup of contaminated sites

If your facility has a proven release of dry-cleaning solvent that contaminated soil and/or groundwater, you may apply to KDHE's Dry-cleaning Facility Release Trust Fund program to have the contaminated site ranked for cleanup using the dry-cleaning environmental surcharge fund. More information is available on the KDHE Web site at ***www.kdheks.gov/dryclean/index.html***. You will need to provide an analysis of at least one groundwater sample to prove the release occurred. Soil samples may be substituted for groundwater samples with pre-approval from KDHE. Priority will be given to sites that require emergency action.

If you have spent more than $5,000 in corrective actions, you may request reimbursement from KDHE. Obtain approval from KDHE before proceeding with any corrective action. If you request reimbursement for corrective actions, you must provide the following records:

- notice of KDHE eligibility for site cleanup
- work plans for actions for which you are asking to be reimbursed
- all reports generated during the corrective action
- notice of KDHE approval for the corrective action
- contractor and subcontractor invoices

Fund expenditures

KDHE will determine a priority ranking for accepted trust fund sites based on risk to human health and the environment. Typically, annual expenditures per site will not exceed 10% of the fund's annual income. KDHE makes every effort to keep dry-cleaning sites off the federal National Priorities List (NPL) and discourages other units of government, both local and federal, from becoming involved in contamination issues at contaminated dry-cleaning sites. Careful consideration is given to effectively and efficiently utilize the fund, therefore, innovative technologies are encouraged to perform corrective action.

Examples of Dry Cleaning Facility Release Trust Fund expenditures include the following:

- investigation and assessment of a release from a dry-cleaning facility
- necessary and appropriate emergency action to treat, restore, or replace drinking water supplies impacted by a dry-cleaning facility release
- remediation of releases for a dry-cleaning facility
- operation and maintenance of corrective action
- monitoring of releases from dry-cleaning facilities
- payment of reasonable costs incurred by KDHE in providing field and laboratory services
- reasonable costs of restoring property, as nearly as practical, to conditions that existed prior to corrective action activities
- removal and proper disposal of waste generated by the release of a solvent
- payment of costs of past corrective action conducted by KDHE or other entities, but approved by KDHE (This reimbursement is limited to $100,000 per site.)

Site funding limits

The Dry Cleaning Facility Release Trust Fund shall not be liable for payment of costs in excess of $5,000,000 for corrective action at any contaminated dry-cleaning site.

If you need more information about ranking a contaminated site, use of the surcharge fund, or reimbursement for corrective actions, contact KDHE at 785-296-6370.

Petroleum solvent dry cleaners

Air quality regulations

Dry cleaners using petroleum solvents could be subject to a federal air regulation under the New Source Performance Standards (NSPS). The regulations are included in Chapter 40 of the Code of Federal Regulations, Part 60, Subpart JJJ (40 CFR 60 Subpart JJJ).

The following equipment is regulated if it is installed at facilities having a total manufacturer's rated dryer capacity equal to or greater than 84 pounds (38 kilograms) and constructed after December 14, 1982:

- petroleum solvent dry-cleaning dryers
- washers
- filters
- stills
- settling tanks

The manufacturer's rated dryer capacity is the dryer's rated capacity of articles in pounds or kilograms of clothing per load, dry basis. Typically this capacity can be found on the manufacturer's nameplate. Total capacity is the sum of the rated capacity for each petroleum dryer that is in existing operation or is proposed for operation after a facility modification is finished.

A dryer is exempt from these regulations if it was constructed between December 14, 1982, and September 21, 1984 and uses less than 4,700 gallons (17,800 liters) of solvent per year.

Every dryer installed must be a solvent-recovery type. Each solvent filter must be a cartridge filter and must be drained in its sealed housing for eight hours before removal.

Dryers must have leak inspection and repair information posted on them with a clearly visible label from the manufacturer. Leak inspection and repair cycle information must be recorded in the operating manual.

If you are subject to the NSPS, an initial performance test is required for petroleum solvent dry-cleaning machines. **Your machine manufacturer should have completed this performance test and be able to provide you with documentation to show the test has been performed.** Conducting an initial performance test may be extremely difficult, especially for dry-to-dry machines. You must verify the flow rate of recovered solvent from the solvent-recovery dryer at the end of the recovery cycle is no greater than 0.05 liters per minute (50 milliliters per minute). You must conduct the performance tests for a minimum of two weeks, with at least 50 percent of dryer loads monitored for their final-recovered solvent flow rate.

It is suggested that measurement of the flow rate of recovered solvent be taken from the outlet of the solvent-water separator. Near the end of the recovery cycle, you must divert the entire flow of recovered solvent to a measuring container, such as a graduated cylinder.

As the recovered solvent collects in the graduated cylinder, you must record the elapsed time in periods of one minute or greater.

Calculate the recovered-solvent flow rate by dividing the volume of solvent collected in a period by the length of time elapsed during the period. Results must be expressed in liters per minute (there are 1,000 milliliters in a liter).

You must continue with the recovery cycle and monitoring procedure until the flow rate of solvent is less than or equal to 0.05 liters per minute.

For five years, keep records of types of articles cleaned and total length of the cycle.

Petroleum solvent dry cleaners

Hazardous waste regulations

As a petroleum dry cleaner, you probably don't generate regulated hazardous waste unless the flash point of your solvent is less than 140°F. It is your responsibility to determine which of your wastes are hazardous and how to properly handle and dispose of them. Some wastes, while not hazardous, do require a special waste authorization, such as GreenEarth dry-cleaning wastes (see page 26). You should become familiar with the regulations that apply to generators of hazardous waste. For more information, you may want to read the *Hazardous Waste Generator Handbook* published by KDHE. You can download the handbook at ***www.kdheks.gov/waste/forms/hazwaste/gen700-HWGenHandbook2011.pdf***. You may also call SBEAP (800-578-8898) or KDHE (785-296-1600) to request a copy.

What is a hazardous waste?

Definitions of hazardous waste
EPA has defined a waste as hazardous if it has certain properties that could pose danger to human health or the environment after being discarded. There are two categories of hazardous waste: *listed* and *characteristic*. Wastes can be specifically listed as hazardous, or a waste can be hazardous if it exhibits one or more of the following characteristics: ignitability, toxicity, corrosivity, or reactivity.

Petroleum solvent wastes are not a listed hazardous waste but are potentially hazardous because they may be considered ignitable. A waste is ignitable if it has a flash point* of lower than 140º F (consult the material safety data sheet), readily causes fires and burns so vigorously that it creates a hazard, or is an ignitable compressed gas or an oxidizer as defined by Department of Transportation (DOT) regulations. It would have the waste code, D001. Even if your dry-cleaning solvent isn't ignitable, certain solvents used in routine maintenance and cleaning of equipment may be.

* The lowest temperature at which vapors above a volatile combustible substance ignite in air when exposed to flame.

Hazardous wastes generated by most dry cleaners include, but are not limited to —

- still bottoms
- filter cartridges
- separator water
- partially empty solvent containers or drums that may contain residual solvents
- lint and spent carbon
- dry-cleaning wastewater

Shipping waste off site
The three most important things to remember when shipping hazardous waste off site are to —

- choose a reputable hauler and facility with EPA ID numbers
- package and label all waste appropriately
- prepare a hazardous waste manifest (Make sure your copies are readable.)

You must ensure that your transporter and waste facility meet applicable state and federal regulations. Disposal facilities must have permits issued by EPA or the state in which the facility is located. Under federal law, you may use only authorized hazardous waste transporters and disposal facilities that have been assigned EPA identification numbers.

The hauler you choose will transport your waste, and the waste management facility will be its final destination. But remember, you are still responsible for the waste you produce.

Petroleum solvent dry cleaners

Hazardous waste regulations

Hazardous waste generator categories

Kansas regulations define four categories of hazardous waste generators: conditionally-exempt small quantity generator (CESQG), Kansas small quantity generator (KSQG), and small or large quantity generator (SQG or LQG). As a CESQG, you may not be subject to hazardous waste notification or reporting requirements. However, dry-cleaner hazardous wastes in any quantity must be managed using specific hazardous waste management standards. Remember, even if you aren't subject to the hazardous waste reporting requirements, you must still register with the KDHE Bureau of Remediation as explained on page 5.

You must determine your generator category to determine which waste regulations apply to you. Your facility may change its status from one category to another, depending on how much waste it generates in a given period. To determine your hazardous waste generator category, count all quantities of hazardous waste that you store on site, package and transport off site, place directly in a regulated on-site treatment or disposal unit, and generate as distillation still bottoms or sludge removed from product tanks.

Do not count wastes that are:

- specifically exempt (for example, used oil that is recycled)
- left in the bottom of containers that have been completely emptied by conventional means such as pouring or pumping
- reclaimed continuously on site without storing (However, count residue removed from recycling apparatus and spent cartridge filters.)
- managed in an elementary neutralization unit, an enclosed treatment unit, or a wastewater treatment unit, or
- discharged directly to a publicly owned treatment works (POTW) without being stored

REMEMBER — Discharging petroleum wastewater to a POTW is prohibited in Kansas.

Regardless of your generator category, you may not dispose of any quantity of hazardous waste by dumping it on the surface of the ground or into surface waters, burying it at an unpermitted site, or using waste such as a solvent to kill weeds.

Hazardous waste monthly generation rate	Hazardous waste generator category
< 55 lbs	CESQG
≥ 55 lbs and ≤ 220 lbs	Kansas SQG (or KSQG)
> 220 lbs and < 2,200 lbs	SQG
≥ 2,200 lbs	LQG

Petroleum solvent dry cleaners

Hazardous waste regulations

Requirements for hazardous waste generators

Some petroleum dry cleaners fall into the CESQG or KSQG categories. If a KSQG, SQG, or LQG, you are subject to several regulations, including obtaining an EPA identification number, preparing a manifest for all off-site shipments of hazardous waste, and meeting emergency preparedness requirements. Following are more detailed KSQG requirements. If you think you may be classified as an SQG or LQG, contact SBEAP at 800-578-8898 or KDHE at 785-296-1600 for details of your requirements. Requirements for each generator category are summarized in the *Hazardous Waste Generator Handbook* available at ***www.kdheks.gov/waste/forms/hazwaste/gen700-HWGenHandbook2011.pdf***.

KSQG requirements

1. Determine which wastes generated by the facility are hazardous.

2. All hazardous wastes must be managed by treatment on site, or sent off site to a commercial treatment, storage, or disposal (TSD) facility or to a facility designated for recycling.

3. Obtain an EPA identification number by submitting a Notification of Regulated Waste Activity form to KDHE. The notification must be updated whenever the information submitted on the original form changes. This form can be downloaded at ***www.kdheks.gov/waste/forms/hazwaste/gen500-notifyofregactivity-hwgen.pdf*** or you can call 785-296-1600 for the most recent edition of the notification form.

4. Prepare a manifest or tolling agreement for all shipments of hazardous waste that are transported off site for treatment, recycling, storage, or disposal. Your commercial hazardous waste vendor will be able to provide the manifest or tolling agreement.

5. Prepare a land disposal restriction (LDR) notification and/or certification for the first shipment of each different hazardous waste. Whether a waste or contaminated soil meets or does not meet the treatment standard, the generator must send a one-time written LDR notification to each treatment, storage, or disposal facility receiving the waste.

6. Package, label, mark, and placard all shipments of hazardous waste in accordance with pre-transportation requirements contained in K.A.R.28-31-4(e). Your vendor may offer this service.

7. Prepare and maintain the following records:
   - a copy of each manifest signed by the designated facility to which waste was sent and a copy of any tolling agreements for wastes shipped to a recycling facility (The signed manifests must be maintained for three years from the date waste was shipped off-site.)
   - manifest exception reports for three years
   - copies of LDR records for three years from the date waste was last shipped off-site
   - hazardous waste analyses for three years from the date waste was last shipped off-site
   - daily and weekly inspection records for three years, although the Bureau of Environmental Remediation requires you keep records for a minimum of five years

Petroleum solvent dry cleaners

Hazardous waste regulations

KSQG requirements (continued)

8. Meet the following storage requirements for hazardous waste **containers**:
   - mark or label each container with the words "Hazardous Waste" and the accumulation start date
   - maintain containers in good condition
   - use container compatible with the hazardous waste to be stored and segregate containers of incompatible wastes
   - keep containers closed except when adding or removing waste
   - inspect each container storage area weekly when waste is present and maintain a written record of each inspection (BWM suggests that a facility also document when no waste is present in the storage area.)

9. If you have hazardous waste storage tanks, see the *Hazardous Waste Generator Handbook* for tank storage requirements.

10. Meet the following preparedness and prevention requirements:
    - properly maintain the facility to minimize releases of hazardous waste
    - provide appropriate communication, alarm system, or telephone or two-way radio
    - provide fire extinguishing and spill-control equipment
    - maintain and test all required equipment to ensure proper operation
    - provide personnel working directly with hazardous waste with immediate access to communications and alarm equipment
    - maintain aisle space sufficient to allow passage of personnel and fire, spill-control, and decontamination equipment
    - as appropriate for type of waste handled and potential need for their emergency services, make arrangements with local hospital, police department, fire department, and any emergency response team to familiarize them with facility layout and hazards involved with wastes generated (Such arrangements should be documented.)

11. Meet the following emergency preparedness and training requirements:
    - designate emergency coordinator who is on the premises or on call at all times to coordinate emergency response measures
    - post name and phone number of the emergency coordinator; phone number of the fire department; and location of fire extinguishers, spill-control equipment, and fire alarms next to one telephone that is accessible during an emergency
    - ensure all employees are thoroughly familiar with proper waste handling and emergency procedures
    - carry out appropriate response to any emergency that arises

12. Before April 1 of each year, submit to KDHE the annual monitoring fee of $100. Note this is separate from the dry-cleaner registration fee.

13. Report all international shipments of hazardous waste to KDHE and EPA.

SQG or LQG generators have additional requirements. For assistance, contact SBEAP.

Alternative dry-cleaning methods

New technologies will help dry cleaners reduce emissions by avoiding use of chlorinated solvents or other hazardous solvents. Decreased emissions and toxicity equate to decreased regulatory burden, costs, and liabilities. With the exception of wet cleaning, which uses no hazardous chemicals and only water as a solvent, other technologies may offer reduced regulatory burden but are still regulated under CAA, RCRA, and DERA. Use of these solvents still requires compliance with dry-cleaner regulations and payment of fees and surcharges.

Wet cleaning
Wet or aqueous cleaning uses water and specialized detergents in sophisticated computerized machines which control the temperature and agitation levels to gently clean garments that would traditionally be "dry cleaned." Wet cleaning is gaining popularity as professional cleaners become more comfortable with using it. Appropriate types of clothes to wet clean include cottons, wools, silks, leathers, suedes, wedding gowns, and beaded and sequined garments. It is reported cleaners and customers alike favor it whenever possible, noting it gets clothes cleaner and leaves them smelling fresh.

The environmental benefits are considerable. With wet cleaning, there is no hazardous chemical use, no air pollution, and no water or soil contamination. The only environmental concern is an increased use of water. There are NO regulatory burdens related to wet cleaning at facilities that do 100% wet cleaning. Many cleaners use it in tandem with a perc or petroleum system, hoping to eventually phase out their traditional solvent system. Read more about a Kansas wet cleaner in a case study published at ***www.sbeap.org***.

With wet cleaning, a larger portion of the cost of clothes cleaning goes to pay employees the increased labor in pressing and finishing. However, there is a savings from not needing to purchase chemicals and dispose of hazardous waste.

Carbon dioxide (CO_2)
CO_2 dry-cleaning is a sub-critical carbon dioxide-based cleaning process that has been developed for use by commercial and retail dry cleaners. CO_2 is a non-flammable, non-toxic, colorless, tasteless, odorless naturally occurring gas that, when subjected to pressure, becomes a liquid solvent. The CO_2 used in the garment-cleaning process is sometimes an industrial by-product from existing operations. Regulatory burdens related to use of this technology are less as compared to perc.

Green Earth
This dry-cleaning method uses liquid silicone (decamethyl cyclopentasiloxane or D5). D5 solvent is chemically inert, i.e., does not interact with textiles or dyes during the cleaning process. D5 is odorless and does not leave a chemical smell on clothes. It has a low surface tension and allows for quick wetting of fibers. This, in combination with a density close to water, helps remove insoluble soils with proper mechanical action. Compared to perc, the regulatory burden is less and in Kansas, this solvent is regulated similarly to petroleum.

DF-2000
Dry-cleaning fluid 2000, known as DF-2000, is a hydrocarbon solvent with a flash point above the 140º F ignitability thresholds. It can provide safe, effective, odorless cleaning and one document indicates its cleaning performance is comparable to perc. Compared to perc, the regulatory burden is less and in Kansas, this solvent is regulated similarly to petroleum.

Glossary

Biweekly inspection: Inspections conducted on 14-day intervals.

Carbon adsorber: A bed of activated carbon through which an air-perchloroethylene gas-vapor stream passes, and which adsorbs the perchloroethylene on the carbon. Carbon-adsorption (sniffer) systems can handle high airflows with low solvent concentrations and reduce solvent vapors in exhaust by 95 percent. Carbon beds range in size from 100 to 1,000 pounds (45 to 455 kilograms) of activated carbon.

Cartridge filter: A separate filter unit containing both filter paper and activated carbon that traps and removes contaminants from perc or petroleum solvent, together with the piping and ductwork used in the installation of this device (part of the carbon adsorber).

Colorimetric tube: A glass tube (sealed before use) containing material impregnated with a chemical that is sensitive to perchloroethylene and designed to measure the concentration of perchloroethylene in the air.

Construction: The on-site fabrication, erection, or installation of a dry-cleaning system subject to the NESHAP. This does not include removal of existing equipment from one location to another, nor the sale of equipment to a new owner unless modifications are made that meet the definition of reconstruction below.

DERA (Drycleaner Environmental Response Act): Dry-cleaning regulations administered by the KDHE Bureau of Environmental Remediation.

Distill: The process of heating a mixture to separate the perchloroethylene from water and waste organic matter.

Diverter valve: This valve prevents air drawn into the dry-cleaning machine from passing through the refrigerator condenser when the door of the machine is open.

Dryer: A machine used to remove perc or petroleum solvent from articles of clothing or other textile or leather goods, after washing and removing excess petroleum solvent, together with the piping and ductwork used in the installation of this device.

Enhanced LDAR: Enhanced Leak Detection and Repair program requires facilities to perform vapor leak checks on a monthly basis using a halogenated hydrocarbon detector or perc gas analyzer, depending upon the source designation. Perceptible leak checks shall also be continued weekly or bi-weekly, depending upon the source designation.

Existing source: A source that uses machines installed before December 9, 1991.

Free-phase solvent: Solvent that is not suspended or dissolved in the dry-cleaning wastewater.

New source: A source that uses machines installed on or after December 9, 1991.

PCE: An abbreviation for perchloroethylene.

Perc: PCE or perchloroethylene. Sometimes referred to as tetrachloroethylene.

Perceptible leak: A leak you can see, feel, or smell. Inspection for vapor leaks using an approved detector or analyzer will suffice for perceptible leak inspections.

Petroleum dry cleaner: A dry-cleaning facility that uses petroleum solvent in a combination of washers, dryers, filters, stills, and settling tanks.

Glossary (continued)

Reconstruction: When any component of the dry-cleaning system is replaced, and the fixed capital cost of the new component exceeds 50 percent of the fixed capital cost that would be required to construct a new comparable source.

Refrigerated condenser: A vapor-recovery system to which an air-perchloroethylene gas-vapor stream is routed and the perchloroethylene is condensed by cooling the gas-vapor stream. Refrigerated condensers recover solvent emissions by chilling the air stream below the dew point, causing the solvent and water vapor to condense.

Secondary containment: A container, berm, or dike that holds another container of hazardous waste or material. It must be capable of catching all spills or leaks from the primary container.

Separator: A device that boils (or evaporates) the water that has been condensed and separates it from the air-perc vapor exhaust stream.

Separator water: Regulated wastewater that results when it is separated from the air-perc vapor stream.

Settling tank: A container that uses gravity to separate oils, grease, and dirt from petroleum solvent, together with the piping and ductwork used in the installation of this device.

Solvent filter: A discrete solvent filter unit containing a porous medium that traps and removes contaminants from petroleum solvent, together with the piping and ductwork used in the installation of this device.

Solvent-recovery dryer: A class of dry-cleaning dryers that employ a condenser to condense and recover solvent vapors evaporated in a closed-loop stream of heated air, together with the piping and ductwork used in the installation of this device.

Still: A device used to volatilize, separate, and recover petroleum solvent from contaminated solvent, together with the piping and ductwork used in the installation of this device.

Tetrachloroethylene: Another name for perchloroethylene (perc).

Transfer system: Any system in which washing and drying are performed in different machines. This may be a washer and dryer, washer and reclaimer, or dry-to-dry machine and reclaimer. Dry-to-dry machines are considered to be a transfer system if clothes are transferred to different machines. *These systems should no longer be used.*

Washer: A machine that agitates fabric articles in a perc or petroleum solvent bath and spins the articles to remove the solvent, together with the piping and ductwork used in the installation of this device.

Calculating your 12-month running total

What is a 12-month running total?
The total amount of perc you purchased in the previous 12 months.

This is an example of how a dry cleaner calculated his 12-month running total in May 2009. The dry-cleaner compliance calendar will help you stay up to date.

May 2009 Example:

Last month's (April 2009) 12-month total =		80
Perc purchased in May 2008 =		20
Subtotal =		60
This month's (May 2009) perc purchases		
Date	Gallons	
5/14	5	
5/29	5	
May 2009 perc total =		10
Current 12-month running total ***(subtotal + May 2009 total)*** =		70

This is the amount purchased from May 2008 through April 2009. This is 12 months of purchases (the running total). Let's assume he bought 80 gallons in those 12 months.

Assume he bought 20 gallons in May 2008. He needs to subtract May 2008, so he can add in the new May 2009 data.

This is only 11 months worth of purchases. He needs to add in the newest month's (May) totals to get back up to 12 months worth of purchases.

Assume he bought five gallons of perc on May 14 and another five gallons on May 29, 2009. That's 10 gallons total.

Now he adds together the subtotal and the May 2009 perc purchases. This is the new 12-month rolling total (June 2008 through May 2009).

10 tips for using your perc detector

Halogenated hydrocarbon detector or perchloroethylene gas analyzer

1. **Do the inspection once a month and document it.** If a vapor leak is detected, you are required to document the leak and repair it within 24 hours unless parts must be ordered. If parts must be ordered, you must repair vapor leaks within five days of receiving the part(s).

2. **Figure out how it should be calibrated.** Work with your supplier to be certain of this. Most require fresh air prior to testing for leaks. It is recommended you turn the detector on outside of your shop. If you turn it on near a leak, it may calibrate incorrectly. For example, if there is a leak of 100 parts per million (ppm) and you turn the detector on near that leak, it will reset its "zero-point" to 100 ppm and will not detect leaks any smaller than that.

3. **Operate your detector according to manufacturer's instructions.** Don't hesitate to call your vendor with questions.

4. **Check for leaks when they are most likely to occur.** Check for leaks during the drying cycle since the dry-cleaning machine is operating under pressure. Check for leaks around the distillation unit while it is running. You probably won't find leaks during the wash cycle since perc liquid is being agitated in the drum and the condenser isn't running.

5. **Place the tip of the detector at the surface (within one to two inches) of the area being checked.** Move it slowly back and forth before moving to the next area.

6. **Inspect all of the following components:**

   a. *hose and pipe connections, fittings, couplings, and valves*
   b. *door gaskets and seatings*
   c. *filter gaskets and seatings*
   d. *pumps*
   e. *solvent tanks and containers*
   f. *water separators*
   g. *muck cookers*
   h. *stills*
   i. *exhaust dampers*
   j. *diverter valves*
   k. *all filter housing*

7. **If the detector beeps rapidly, you may have a leak.** Go back to the area where you first detected the beeps. You want to find the exact spot where the detector reliably beeps so you know the precise part or location to repair.

8. **If the instrument detects a perc vapor leak or is set off, make sure to air it out** before continuing the inspection; otherwise, you may have mixed or incorrect results.

9. **The detector must be able to detect vapor concentrations of 25 ppm by volume**. It must also either emit an audible or visual signal that varies as the concentration level changes.

10. **Keep the perc detector away from refrigeration systems.** Otherwise, a refrigerant leak may cause your detector to be set off.

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